

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) An ultrasonic inspection assembly comprising:
an ultrasonic transducer mounted on a stage;
a support structure having a proximal end adjacent to said stage and a terminal end opposite to said stage, said support structure defining an interior space filled with a media which transmits ultrasonic waves, wherein said transducer is arranged to direct ultrasonic waves through said media to said terminal end and then to a target comprising a resistance spot weld joint;
wherein said stage and said proximal end of said support structure are coupled to one another, and said transducer is oriented such that it transmits ultrasonic waves through said media; and
a drive mechanism for rotating one of said stage and said support structure relative to the other one of said stage and said support structure.
2. (original) The ultrasonic inspection assembly of claim 1 wherein said stage rotates relative to said support structure,
3. (original) The ultrasonic inspection assembly of claim 1 wherein said media is water.

4. (cancelled).
5. (cancelled).
6. (original) The ultrasonic inspection assembly of claim 1 wherein said interior space within said support structure has a distance from said proximal end to said terminal end that optimizes a shape of an ultrasonic beam emitted from said transducer.
7. (original) The ultrasonic inspection assembly of claim 1 wherein said stage and said support structure are coupled to one another by a coupling that comprises a seal to prevent or at least minimize leakage of fluid from said proximal end of said interior space to an exterior of the assembly.
8. (previously presented) The ultrasonic inspection assembly of claim 1 wherein at least a portion of said terminal end is in contact with a target.
9. (original) The ultrasonic inspection assembly of claim 1 wherein said terminal end is substantially sealed from fluid communication from said interior space to an exterior of the assembly by a seal.
10. (original) The ultrasonic inspection assembly of claim 9 wherein said seal of said terminal end comprises a compliant polymeric material diaphragm.

11. (original) The ultrasonic inspection assembly of claim 10 wherein at least a portion of said diaphragm is in direct contact with a target.
12. (original) The ultrasonic inspection assembly of claim 1 wherein said terminal end has an aperture to permit a small continuous flow that establishes a continuous path of said media from said terminal end to a target.
13. (original) The ultrasonic inspection assembly of claim 1 wherein said stage is coupled to said support structure by a retaining ring, said retaining ring having an interior circumference comprising a ring gear, and said drive mechanism comprising a pinion which traverses along said ring gear to provide rotational movement of said stage relative to said support structure.
14. (original) The ultrasonic inspection assembly of claim 1 wherein said ultrasonic transducer is a high-frequency linear phased array ultrasonic transducer.
15. (original) The ultrasonic inspection assembly of claim 1 wherein said support structure has a length of less than about 25 mm.

16. (original) An ultrasonic inspection assembly for testing resistance spot welds comprising:

a high frequency linear phased array ultrasonic transducer mounted on a stage;

a support structure having a proximal end adjacent to said stage and a terminal end opposite to said stage and in contact with a resistance spot weld target, said support structure defining an interior space filled with a media which transmits ultrasonic waves, wherein said transducer is arranged to direct ultrasonic waves through said media to said spot weld target, wherein said stage and said proximal end of said support structure are coupled to one another; and

a drive mechanism for rotating said stage relative to said support structure.

17. -22. (cancelled).

23. (new) An ultrasonic inspection assembly comprising:

an ultrasonic transducer mounted on a stage;

a support structure having a proximal end adjacent to said stage and a terminal end opposite to said stage, said support structure defining an interior space filled with a media which transmits ultrasonic waves, wherein said terminal end has an aperture to permit a small continuous flow that establishes a continuous path of said media from said terminal end to a target, wherein said transducer is oriented such that it transmits ultrasonic waves through said media; and

a drive mechanism for rotating one of said stage and said support structure relative to the other one of said stage and said support structure.